

REMARKS

Claims 1-25 remain pending in the application without amendment.

By the foregoing Amendment, the specification is amended to specify the application numbers of related applications and to update their status. These changes are believed not to introduce new matter, and entry of the Amendment is respectfully requested.

Based on the above Amendment and the following Remarks, Applicant respectfully requests that the examiner reconsider all outstanding objections and rejections, and withdraw them.

The November 13, 2004 Office Action

In the Office Action dated October 13, 2004, the examiner rejected Claims 1-25 based on a combination of U.S. Patent No. 6,587,453 (Romans *et al.*) and U.S. Patent No. 6,567,416 (Chuah).

Applicant respectfully traverses the rejection.

Briefly, the claims are directed to methods and systems for channel access in a wireless network in which a point coordinator (PC) station sends a contention control (CC) frame, and in response a non-PC station sends a reservation request (RR). Each of the independent Claims 1, 7, 15 and 21 recites specific features of the CC frame and RR that distinguish the claims.

For example, each independent claim recites that the CC contains information relating to identification of stations from which an RR was successfully received by the PC station in a preceding centralized contention interval (CCI). Moreover, each independent claim recites that the RR indicate an amount of bandwidth requested by the non-PC station for transmitting a burst of data frames. Applicants submit that at least these features are not disclosed in or suggested by the cited references, considered either individually or in combination.

At the outset, Applicant points out a significant distinction between reservation requests (RRs) and data frames. RRs are essentially *control* frames that request medium access in order to transmit *data*; fundamentally, the *control* frames are different from *data* frames, as understood by those skilled in the art. Referring to the non-limiting example in Applicant's FIG. 10, for example, RRs are sent in a CCI period immediately after a contention control (CC) frame; the RRs constitute *control* frames and not *data* frames. In contrast, *data* is transmitted in

transmission opportunities (TOs) such as frames as VS13, VS30 VS28, which follow a multi-poll frame (multipoll frames being recited in independent Claim 1). Thus, the distinction between control frames (for example RR) and data frames (for example, VS13) are clear from Applicant's FIG. 10.

Several features distinguish the claims over the cited references.

First, in contrast to Applicant's claims, the primary reference, Romans *et al.*, discloses an arrangement in which a control point beacon (CPB; see esp. Romans' FIG. 4) specifies the number of active TDMA connections in contention-free periods CFP1, CFP2.¹ Romans' "connections" include a pair of TDMA slots that are of fixed length.² The first slot is a downlink slot (CP to node) and the second slot is an uplink slot (node to CP).³ Significantly, Romans' CFPs containing the slots are used to transmit *data*⁴ and not *control* frames such as Applicant's reservation requests (RRs). Thus, at the outset, it is seen that the Romans *et al.* rejection is fundamentally flawed in that it attempts to equate Romans' data frames with Applicants' claimed RR control frames.

Second, Applicant's independent claims recite that the RRs indicate an amount of bandwidth requested by a non-PC station for transmitting a burst of data frames (the data frames clearly being distinct from the RRs). Concerning where this specifically recited limitation is found in the cited references, the Office Action cites Romans *et al.*:

... as disclosed in column 7, lines 2-58, the node responds using a CPS...request message such as a request of amount bandwidth transmitted in the uplink slot allocated by the CP, each time it receives the connection request.⁵

¹ Romans *et al.*; column 3, lines 16-22.

² Romans *et al.*; column 3, lines 23-27.

³ *Id.*

⁴ "A contention-free period at the end of the superframe in which isochronous data are transmitted. All data transmitted are acknowledged. If the data are not acknowledged they are repeated in a contention-free period at the start of the next superframe period." Romans *et al.*; column 1, lines 61-65.

⁵ October 13, 2004 Office Action at middle of page 3 (emphasis added).

However, in fact, the passage in the Romans *et al.* patent to which the Office Action refers, merely recites:

The node responds using a CPS Request message transmitted in the uplink slot allocated by the Control Point, each time it receives the connection request.⁶

Thus, significantly, the Romans *et al.* patent does not disclose or suggest the claim limitation relating to the request for an amount of bandwidth needed to (subsequently) transmit a burst of data frames. *The Office Action inserts Applicant's claim language into a quotation from the Romans et al. patent, in an attempt to show that the Romans et al. patent anticipates Applicant's claim language!* Clearly, this rejection is a textbook example of how Applicant's own invention has been used against him in rejecting his claims, which is improper under 35 U.S.C. § 102 or § 103.

Third, although the Office Action correctly admits⁷ that Romans *et al.* do not disclose that the CC frame contains information relating to the identification of stations from which a RR was successfully received by the PC station in a preceding CCI, Applicants submit that the Office Action's citation of a secondary reference, to Chuah, also fails to meet Applicant's claim limitations. In particular, the portion of the Chuah patent to which the Office Action refers (Chuah's FIGS. 4, 6) appear to relate merely to conventional acknowledgement of *data*, and not identification of *stations* previously sending RR *control* frames. Thus, because neither Romans *et al.* nor Chuah disclose or suggest this claim limitation, the rejection is improper.

Fourth, concerning independent Claim 1 and its dependents, the distinction between a data frame and a control (esp. RR) frame is brought home by the recitation in independent Claim 1 of a multipoll frame. The multipoll frame contains information relating to transmission opportunities (TOs) in which *data* frames may be sent.⁸ Clearly, a single (CPB beacon) frame in the Romans *et al.* patent cannot reasonably be said to anticipate more than one of Claim 1's RR,

⁶ Romans *et al.*; column 7, lines 27-29.

⁷ October 13, 2005 Office Action at page 4, line 10 *et seq.*

⁸ See last three paragraphs of Claim 1 (original).

multipoll frame, or TO. The Office Action is vague in its treatment⁹ of Claim 1's multipoll frame, referring merely to slot assignment information in the form of a beacon (presumably the CPB). Accordingly, there are not distinguishable elements in the Romans *et al.* patent that correspond to the specifically recited elements of Claim 1, and accordingly the rejection is not internally consistent and should be withdrawn.

The dependent claims incorporate the limitations of independent Claims 1, 7, 15, and 21 from which they depend. Accordingly, the dependent claims should be allowable for at least the same reasons that the independent claims are allowable, as well as for the merits of their own recited features. For example, the foregoing comments concerning the multipoll frame apply equally to dependent Claims 4, 8, 9, 12, 16, 17, and 22 since they all require the presence of a multipoll frame in combination with other claim elements.

The foregoing remarks demonstrate that Claims 1, 7, 15, and 21, and therefore all their dependent claims, are patentably distinguishable for a variety of reasons over the references, considered either individually or in combination. Accordingly, reconsideration and withdrawal of the rejection under 35 U.S.C. § 103 are respectfully requested.

Drawings

Applicant requests that, in the next official communication, the examiner affirmatively indicate acceptance of the formal drawings.

Information Disclosure Statement (IDS)

An IDS accompanies this Amendment, listing art cited in related applications referenced on pages 1-2 of the present application. Official consideration of the IDS is respectfully requested.

Change of Correspondence Address; New Associate Attorney

A "Revocation of Associate Power and Appointment of Attorney and Change of Correspondence Address" is filed herewith. The Appointment recognizes the undersigned

⁹ October 13, 2004 Office Action at page 4, lines 3-5.


attorney to prosecute the case. It is requested that the examiner verify that the address information has been entered into the PTO mailing system so that future communications will be mailed to the correct address.

Conclusion

All objections and rejections have been complied with, properly traversed, or rendered moot. Thus, it now appears that the application is in condition for allowance. Should any questions arise, the examiner is invited to call the undersigned representative so that this case may receive an early Notice of Allowance.

Favorable consideration and allowance are earnestly solicited.

Respectfully submitted,

By: 

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